REMARKS

Claim 1 has been amended to recite a nip width substantially similar to that recited in claim 9. No new matter has been added.

Claims 20 and 24 stand objected to. The Examiner has asserted that the "plurality of components" recited in claim 20 is not found in the specification, and has suggested that "perhaps applicant[s] should introduce [the] definition of the 'specific component' in the specification [in] order to maintain consistency in the terminology throughout the claims and [the] specification." Applicants respectfully disagree with the Examiner's assertion and decline to amend the specification.

Figure 7 and paragraph [0079] of the specification disclose an exemplary embodiment of the invention comprising imaging units 73Y, 73M, 73C and 73K, which correspond to the plurality of components recited in claims 20 and 24. In the exemplary embodiment of the invention, as shown for imaging device 73Y, each imaging unit comprises a photosensitive drum 73Y1, a charger 73Y2, an exposure device 73Y3, a developing device 73Y4 and a cleaning device 73Y5.

In the tandem type image forming apparatus described, only one of the imaging units ("one component among the plural components" as recited in claim 24) is used to form an image at any given time. For example, when imaging unit 73Y is used to form an image, the remaining imaging units 73M, 73C and 73K are not used to form images. This operation is clearly described in the specification.

Applicants have amended claim 24 to claim "one component" rather than a "specific component" to help clarify the claim without altering the scope of the claim.

The Examiner has objected to the Drawings under 37 CFR 1.83(a), asserting that the drawings fail to show a "plurality of components" as recited in the claims. Applicants respectfully maintain the drawings in there present form. As detailed above, elements 73Y, 73M, 73C and 73K of Figure 7 depict the "plurality of components" as recited in claim 20.

Claims 1-16, 18 and 19 stand variously rejected under 35 USC 103(a) on Shimizu (U.S. Patent Publication No. 2002/0181965), Ishiguro (U.S. Patent No. 5,671,416), Shinohara (U.S. Patent No. 6,470,154) and Yasui (U.S. Patent No. 5,845,174) in view of Okano (U.S. Patent Publication No. 2004/0022558). Applicants respectfully traverse these rejections.

Applicants initially note that the Examiner has consistently referred to Shimizu as "Shimuzi." From the context of the Action, applicants assume that the Examiner has provided the proper U.S. Patent Publication Number and has merely repeated a typographical error. If applicants' assumption is incorrect and the Examiner intended to rely on a "Shimuzi" reference having a different U.S. Patent Publication Number, applicants respectfully request a new action which correctly identifies the reference.

Claim 1 recites that, "the amount of push, p, for pressing the rotary brush against the rotary member satisfies the following condition: 0.1 mm $\leq$ p $\leq$ 2.0 mm, and wherein nip width, n, in the area of contact between the rotary brush and the rotary member satisfies the following condition, 2.0 mm $\leq$ n $\leq$ 10.0 mm." None of the cited references, alone or in combination, recite such features.

The Examiner has conceded that Shimizu, Ishiguro, Shinohara and Yasui do not disclose or suggest either an amount of push or a nip width, and instead relies exclusively on the disclosure of Okano. However, Okano does not disclose or suggest any push or nip values related to the use of a charging brush as recited in claim 1. Instead, Okano only discloses push and nip values used in an apparatus which having a charging roller 2 (see, Figure 1 and throughout the specification). Push and nip values used in an apparatus having a charging roller do not disclose or suggest push and nip values which may be used with a charging brush as recited in claim 1. The structure and composition of a charging roller is different from that of a charging brush at least to the extent that nip and push values for the two separate charging devices are not interchangeable. A charging roller uses a mostly uniform surface while a charging brush uses a bristled surface which rubs and

slides against the surface of a rotary member. Due to the different surface compositions as well as the geometries, a direct comparison of nip and push values can not be drawn.

Accordingly, claim 1 is allowable because the various combinations of the references fail to disclose or suggest push or nip values for use in an apparatus comprising a charging brush as recited in the claims. Claims 9 and 18 recite features substantially similar to those discussed above with regard to claim 1 and are therefore allowable for at least the above reasons. Claims 2-8, 10-16 and 19 depend from allowable claims and are allowable due at least to their respective dependencies.

Claims 17, 20, 21, 24 and 26 stand rejected under 35 USC 103(a) on Yasui in view of Boomgaarden (U.S. Patent Publication No. 2004/0045581). Applicants respectfully traverse this rejection.

Claim 17 recites an image forming apparatus comprising "a counter for counting a number of rotations of the rotary brush, and a controller which controls operation of the rotary brush; wherein, the controller operates in two control modes, a first mode for active rotation of the rotary brush, and a second mode for passive rotation of the rotary brush as driven by rotation of the rotary member, and wherein the controller executes the first mode before a cumulative number of rotations of the rotary brush in the second mode, as counted by the counter, exceeds a prescribed number of rotations." The Examiner has conceded that Yasui does not disclose a counter for counting a number of rotations of a rotary brush as recited in claim 17. Furthermore, because Yasui does not disclose a counter, Yasui cannot and does not disclose executing two different control modes based on a number of rotations of the rotary brush.

The Examiner relies on Boomgaarden to supply the missing features, stating that "Boomgaarden discloses a device in the field of applicant's endeavor wherein, a controller comprising an input setting for controlling brush rotation rate. This would imply, that the brush rotation rate, (and thus, number of rotation related to the rotation rate by time) should be

determined/ calculated/ counted/ measured. Therefore the controller is also acting as a rotation/ rotation rate counter." Applicants respectfully disagree.

Initially applicants note that the claims are in the field of endeavor relating to image forming apparatuses, and more particularly in the field image forming apparatuses having charging brushes. Boomgaarden, however, discloses a street-sweeping device. Applicants respectfully submit that one of ordinary skill in the art of image forming apparatuses would not have looked to a disclosure of a street-sweeping apparatus for help in minimizing image defects.

Furthermore, Boomgaarden does not disclose or suggest a counter as recited in claim 17. The Examiner's admitted inference that Boomgaarden must disclose a counter is flawed. Boomgaarden, as the Examiner stated, discloses only a controller which allows a rotation rate to be set. A controller that sets a rotational speed of a street-sweeping brush does not inherently disclose a counter that counts a number of rotations of the brush. Boomgaarden does not disclose or suggest any reason its street-sweeper would benefit from having a counter to count a total number of rotations.

Claims 1-5, 7 and 18 stand rejected under 35 USC 103(a) on Shimizu in view of Hatakeyama (U.S. Patent No. 6,915,093). Applicants respectfully traverse this rejection.

Applicants initially note that the Examiner has consistently referred to Hatakeyama as "Natakeyama." From the context of the Action, applicants assume that the Examiner has provided the proper U.S. Patent Number and has merely repeated a typographical error. If applicants' assumption is incorrect and the Examiner intended to rely on a "Natakeyama" reference having a different U.S. Patent Number, applicants respectfully request a new action which correctly identifies the reference.

Applicants have amended claim 1 to recite that, "nip width, n, in the area of contact between the rotary brush and the rotary member satisfies the following condition $2.0 \text{ mm} \leq n \leq 10.0 \text{ mm}$." Hatakeyama does not disclose or suggest such a feature, nor has the Examiner cited it as doing so.

Applicants note that the Examiner has rejected claim 18, which also recites a nip width, under the same references, yet the Examiner has failed to assert that this feature is disclosed in either reference, which it is not. Accordingly, claims 1 and 18 are allowable over the combination of Shimizu and Hatakeyama. Claims 2-5 and 7 depend from allowable claims and are allowable due at least to their respective dependencies.

Claim 22 stands further rejected under 35 USC 103(a) on Yasui and Boomgaarden in further view of Hatakeyama. Applicants respectfully traverse this rejection. As noted above with regard to claims 1 and 18, the Examiner has not provided any evidence of a motivation to combine Boomgaarden with Yasui. Furthermore, Hatakeyama does not disclose a counter to count the number of rotations of a brush, nor has the Examiner cited Hatakeyama as doing so. Accordingly, Hatakeyama does not overcome the deficiencies of Yasui and Boomgaarden discussed above. Claim 22 is therefore allowable.

Claims 22 and 23 stand further rejected under 35 USC 103(a) on Yasui and Boomgaarden in further view of Okano. Applicants respectfully traverse this rejection. As noted above with regard to claims 1 and 18, the Examiner has not provided any evidence of a motivation to combine Boomgaarden with Yasui. Furthermore, Okano does not disclose a counter to count the number of rotations of a brush, nor has the Examiner cited Okano as doing so. Accordingly, Okano does not overcome the deficiencies of Yasui and Boomgaarden discussed above. Claims 22 and 23 are therefore allowable.

Claims 20 and 25 stand rejected under 35 USC 103(a) on Shinohara in view of Boomgaarden. Applicants respectfully traverse this rejection.

Once again, the Examiner has failed to provide evidence that would have motivated one of ordinary skill in the art of image forming apparatuses to combine the references so as to arrive at the invention. Shinohara discloses an image forming apparatus with a cleaning mode, and, as discussed above, Boomgaarden discloses a street-sweeper. Furthermore, the Examiner has conceded that

Shinohara does not disclose a counter to count that number of brush rotations. As discussed above, Boomgaarden also fails to disclose or suggest such a feature. Accordingly claims 20 and 25, which do recite a counter to count the number of brush rotations, are allowable.

Applicants solicit an early action allowing the claims.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **325772035200**.

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Respectfully submitted,

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